ARIZONA GAME AND FISH DEPARTMENT
HABITAT PARTNERSHIP COMMITTEE
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL

Game Branch / HPC Project Number:	13-508

PROJECT INFORMATION

Project Title: KJ Ranch Windmill Pasture - Bonita Grasslands Restoration Phase 4

Region and Game Management Unit: Region 5 / GMU 32

Local Habitat Partnership Committee (LHPC): Safford	**Was the project presented to the LHPC?** **YES**[X] **NO**[]

Has this project been submitted in previous years? YES[] **NO**[X]
If Yes, was it funded? YES[] **NO**[] → **Funded HPC Project #(s)**:

Project Type: Grassland Restoration – Mesquite Grubbing

Brief Project Summary:

This overall project (**Bonita Grasslands Restoration**) is in the fourth phase of a 20,000 acre landscape scale grassland restoration project in the Bonita area within GMU 31 and 32 which will involve using funding and grants from the Natural Resources Conservation Service (NRCS), Arizona Department of Agriculture (ADA), US Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD). During the initial planning stages of this project, it was foreseen to require up to 10-15 years to complete the entire proposed project area dependent upon available funding sources and cooperating landowners and lessees.

This particular project (**KJ Ranch-Windmill Pasture**) will reclaim 320 acres of historic semi-desert grassland through the use of mechanical grubbing of live mesquite trees and the piling of those mesquite carcasses for later removal. All mesquite carcass piles will be burned at a later date. The removal of the mesquite carcasses after grubbing is important in relation to pronghorn antelope's "visibility" within their habitat. Ideal pronghorn habitat would consist of open grasslands with a mixture of grasses, forbs and low shrubs averaging between 10 and 18 inches in height. Canopy cover and shrubs above 30 inches should be considerably less that 20% of total cover for the area. Leaving mesquite carcasses lay in the project area could seriously jeopardize the visibility level and hinder pronghorn antelope's use of these areas. This is why there is a heavy emphasis on removing the carcasses during the project.

The grubbing work is preferred to be done by means of an excavator as opposed to a bull dozer due to the more efficiency of this machine and its minimal ground disturbance. Piling or removing of the carcasses will be done with a front-end loader or small bull dozer

This Ranch already has a CRM (Coordinated Resource Management) developed for the ranch through the Natural Resource Conservation Service (NRCS).

The removal or significant reduction in mesquites within the treated area and improved range management will result in overall improved range conditions, improving water infiltration and reducing soil erosion. This will go a long way toward restoring the grassland ecosystem benefiting all grassland associated wildlife species.

This 320 acre project is adjacent to another mesquite grubbing project completed in 2012 and will improve the continuity of open grassland habitat for Pronghorn Antelope, Mule Deer and Scaled Quail.

Big Game Wildlife Species to Benefit: Pronghorn Antelope, Mule Deer, Scaled Quail

Implementation Schedule (Month/Day/Year):	**Environmental Compliance**:
Project Start Date: March 2014 Project End Date: October 2014	NEPA Completed: Yes[ ] No[ ] N/A[X] Projected Completion Date: State Land Trust State Historic Preservation Office - Archaeological Clearance: Yes[X] No[ ] N/A[ ] Projected Completion Date: Application submitted to State Land Department, expect completion by January 2014. Arizona Game and Fish Department EA Checklist: N/A[X] To be Completed by: Projected Completion Date:

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	**$** 30,000.00
Cost Share or Matching Funds: NFWF Rancher	$ 36,000.00 $ 54,272.00
Total Project Costs:	**$ 120,272.00**

PARTICIPANT INFORMATION

Applicant: Brent Haas	**Address**: Brent Haas 8675 W. County Line Road Willcox, AZ 85643	**E-mail**: haasfarms@vtc.net
Telephone: 520-508-2155		**Date**: August 23, 2013

AGFD Contact and Phone: John Bacorn (520-591-1485)

Project has been coordinated with: AGFD, AZ State Land Department, Rancher/lessee

NEED STATEMENT – PROBLEM ANALYSIS:

"The antelope were once very abundant throughout the entire Sulphur Springs Valley, but now inhabit the grassland north of Willcox, east of the Galiuro and Winchester Mountains and west of the Pinalenos. A portion of the population also ranges on Allen Flat to the southwest of the Winchester Mountains. Raymond Wildlife Area-Chavez Pass antelope were released here (22 in 1943, 6 in 1944, 40 in 1945)" from Region V Pronghorn Antelope Management Plan.

During the early to mid-1990's over 100 antelope were observed during AGFD aerial surveys within the Bonita area. Beginning around 2000 the number of animals observed began declining and during the 2004 and 2005 surveys, only 25 animals were observed. During this time period fawn to doe ratios declined. From 1999 to 2004, the average fawn to doe ratio was 5:100. In 2006, 2007 and 2008, AGFD contracted with Wildlife Services to fly aerial coyote control within the Bonita area, observation numbers increased to 49, 84 and 58 animals and fawn ratios were 35, 75 and 21 fawns per 100 does during the three years of aerial coyote control. The average number of pronghorn observed during the last 5 years has been 50.

Land that was historically semi-desert grassland is being encroached upon by mesquite trees. Therefore, the historic grassland blocks are declining in size and connections between them are being lost. Grassland associated wildlife are being impacted by this loss due to habitat degradation and fragmentation. Pronghorn antelope is definitely one of the key species being negatively impacted by these changes in grasslands habitat. If the mesquite invasion continues in GMUs 31 and 32 within the existing Pronghorn Antelope habitat, open grassland habitat will continue to disappear and so will the Pronghorn Antelope population.

Mesquite invasion in grasslands alters the entire grassland ecosystem; it alters the water infiltration, changes the vegetation composition such as grasses, forbs, shrubs and subshrub (browse) species. This change in vegetation changes the wildlife species composition normally associated with grasslands.

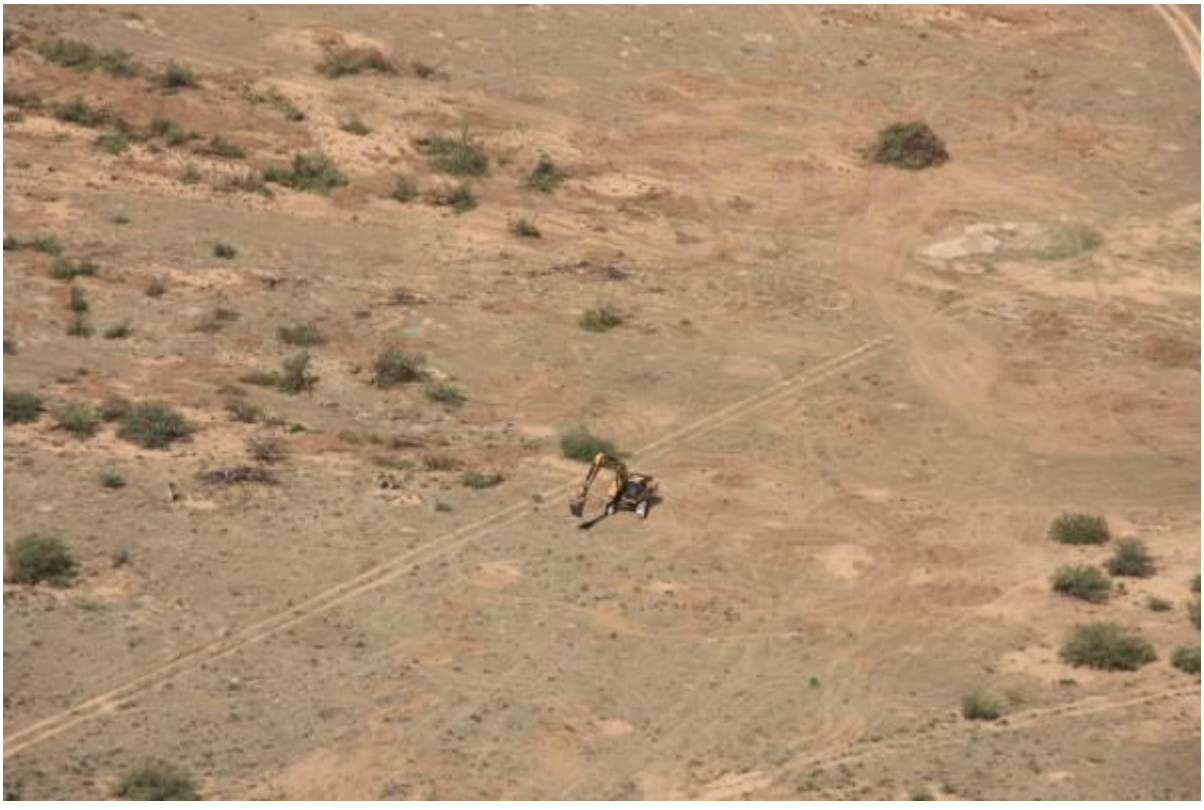
PROJECT OBJECTIVES:

1) Improve/restore the desert grassland ecosystem.
2) Improve range conditions for all grassland associated wildlife species and livestock.

PROJECT DESCRIPTION AND STRATEGIES:

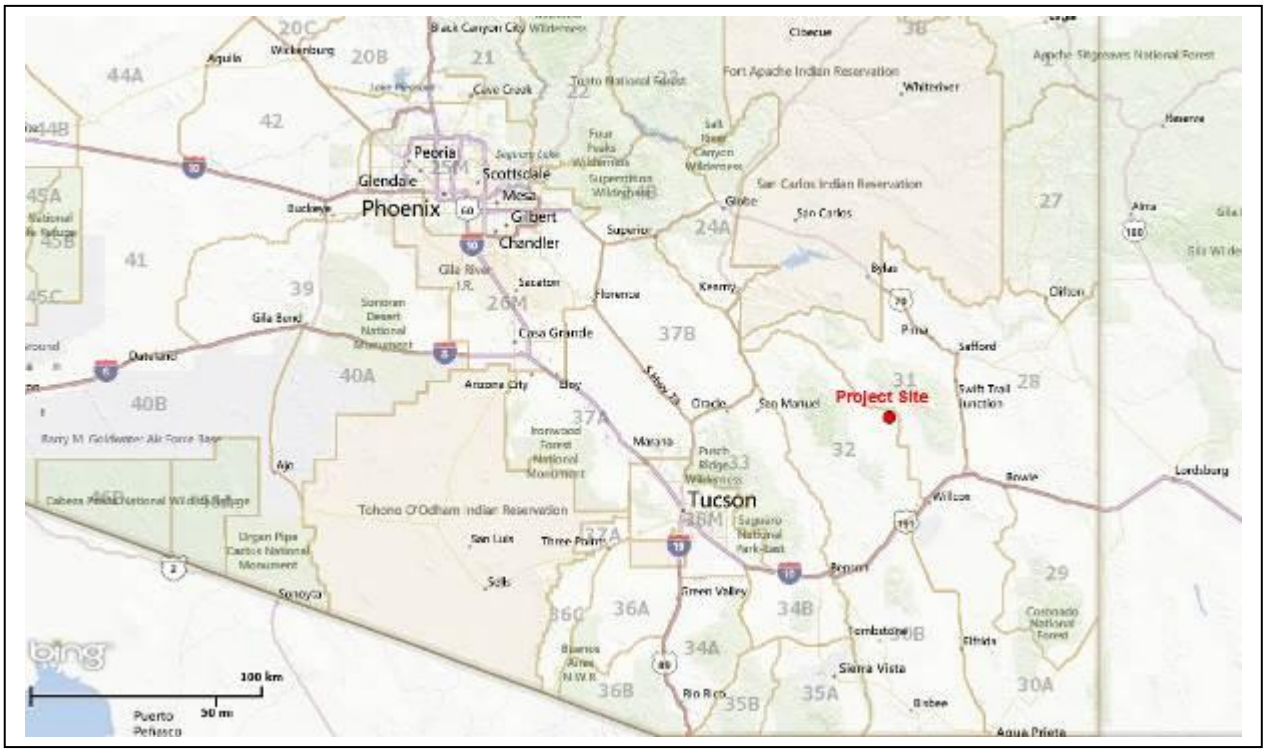
1) Remove/reduce mesquite densities within project area.
2) Remove mesquite carcasses by piling and burning.
3) Possibly reseeding rangeland with a grass/forbs seed mixture.
4) Defer grazing in project area for a minimum of 2 growing seasons.
5) Implement CRM (Coordinated Resource Management) plans to improve range conditions.

Photo of excavator being used on Bonita Grasslands Restoration projects.



PROJECT LOCATION:

The project site is located in Region V, in the east-central portion of GMU 32, approximately 30 miles north of Willcox, AZ.



The project site is located on State Trust land a few miles northeast of the small community of Bonita. This map indicates the locations of other completed grubbing projects within the Bonita Grasslands Restoration area.

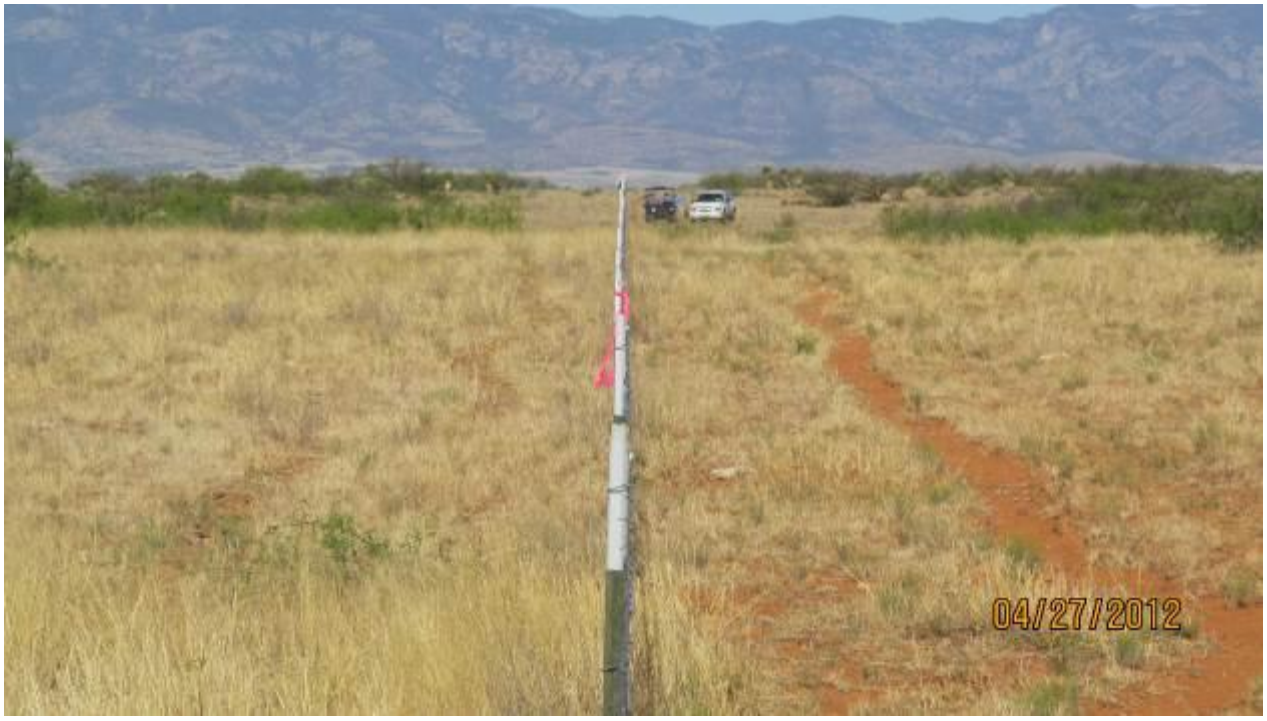
LAND OWNERSHIP AT THE PROJECT SITE(S)*:*
(if the project area is private property, please state specifically and provide the landowner's name)

- Arizona State Trust

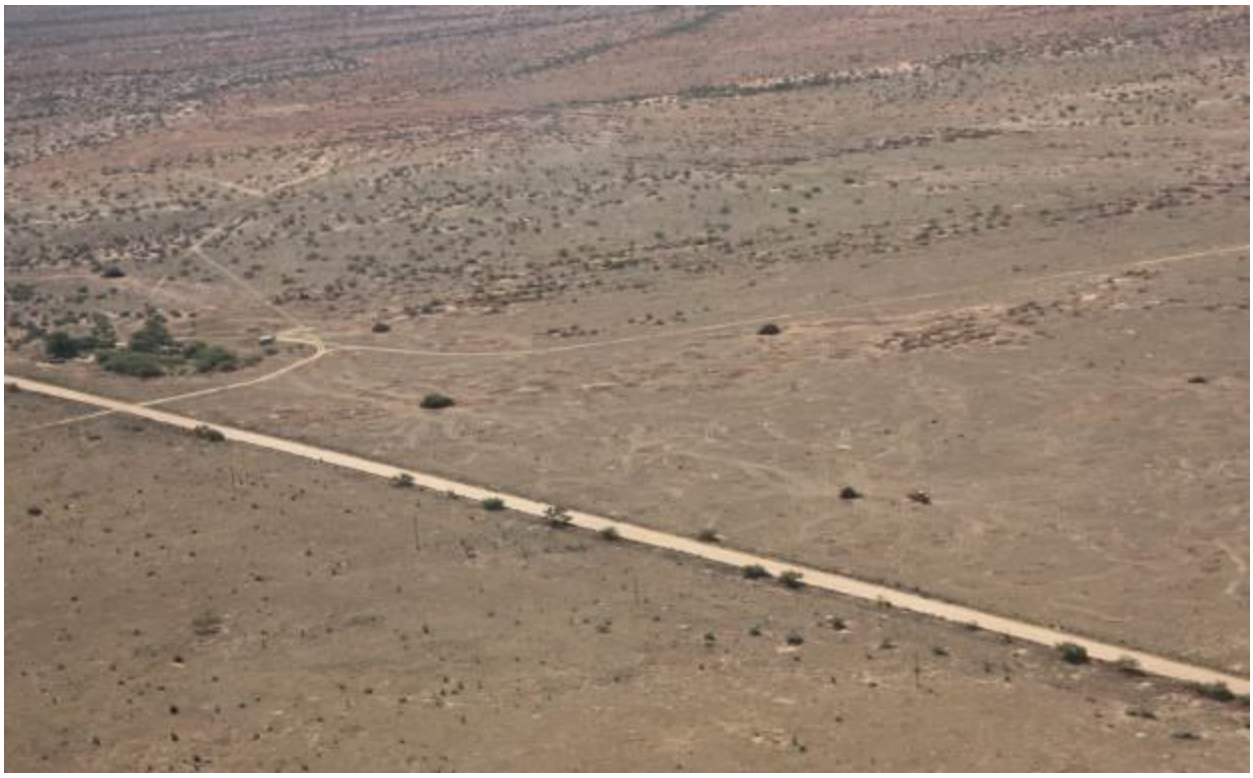
IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?
YES[] NO[] N/A[X]

HABITAT DESCRIPTION:
The project area is remnant, semi-desert grassland with heavy invasion of mesquite-shrub dominance community at around 4600 feet.

Photo of habitat conditions and project site (on right side of fence line).



Aerial Photo of project site (upper left portion of photo) and an adjacent ongoing grubbing project during 2012. The Bonita-Klondyke Road can be seen toward the bottom of photo



ITEMIZED USE OF FUNDS:

Based upon the Natural Resource Conservation Service (NRCS) 2012 Management Practices Cost's Guidelines, the cost for mechanical large brush removal (medium density) is $300.85 per acre (NRCS 75% incentive rate = $225.64) and the estimated mesquite carcass removal rate, which includes piling and burning is $45.00-$75.00 per acre.

Management Practice	Rate/ac	Acreage	Total
Brush Removal (grubbing)	$300.85	320	$96,272.00
Obstruction Removal (carcasses)	$75.00	320	$24,000.00
			$120,272.00

Special Big Game License Tag Funds
$30,000.00

Cost Share or Matching Funds (*for volunteer labor rates please refer to the worksheet below*)
AZ Antelope Foundation's NFWF (National Fish and Wildlife Foundation) Grant $36,000.00
Rancher/lessee contributions $54,272.00

Funding from all sources; Tag Funds, NFWF and lessee contributions will be combined to complete the grubbing and carcass removal tasks outlined in this proposal.

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:
Natural Resource Conservation Service (NRCS): CRM (Coordinated Resource Management) planning and monitoring.
Arizona Game and Fish Department (AGFD): Planning and monitoring.
Lessee (Brent Haas): Conduct grubbing and carcass removal operations and matching contributions.

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?
YES[] NO[] N/A[X] State Trust Lands; access is already available.

PROJECT MONITORING PLAN:
Project completion and success will be monitored by NRCS and AGFD.

PROJECT MAINTENANCE:
The project area will be monitored annually by NRCS, landowner and/or AGFD. It is anticipated that there will not be 100% mesquite mortality and there may be some re-sprouting of mesquite in subsequent years. This has been discussed between all parties involved. Maintenance may require application of herbicide of individual plants every few years to maintain the open grassland habitat type desired.

PROJECT COMPLETION REPORT TO BE FILED BY:
John Bacorn (AGFD)

WATER DEVELOPMENT PROJECTS (*please use the worksheet below***): N/A**

TREE CLEARING/REMOVAL PROJECTS (*please use the worksheet below***):**

ARIZONA GAME AND FISH DEPARTMENT
TREE CLEARING/REMOVAL WORKSHEET

PROJECT TITLE: KJ Ranch Windmill Pasture (Bonita Grasslands Restoration Phase 4)

1) What is the estimated acreage of the project?
320 acres

2) How are the trees going to be cleared? (agra axe, chain saw, grubbing, push, chaining):
Mechanically Grubbed with an excavator, then piled and later burned

3) What is the estimated number of trees per acre?
NRCS classifications are heavy (>150 per ac), medium (75-150 per ac) and light (<75 per ac). The project site is estimated to have a medium density of mesquite infestation (75-150 per ac).

4) Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):
Mesquite tree will be the selected target species. Various diameter and multi-stemmed trees will be removed, diameters will ranch from1 inch up to around 35 inches, most trees above 35 inch diameter will be left for shade and thermo-regulation.

5) Describe terrain (slope, soil type, rocks)
Uplands, sandy loam type soil with less than 30% slope.

6) Please list any special land management status for the project site (e.g. Wilderness, National Park, National Monument). If private land, list landowner.
State Trust Lands

7) Please provide the following information about access to the proposed site:
Type of access (mark one): [X]2x4 vehicles []4x4 only []Foot only**

**If foot access only: Distance in miles: Approx. hiking time:

Does access to this site require crossing private or tribal lands? YES[] NO[X]

Is the site relatively accessible for tree removal equipment? YES[X] NO[]

Please describe any restrictions to public access:
This site is accessible by walk-in from the Bonita-Klondyke Road.